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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/565,928

01/20/2006

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EPC-014

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EXAMINER

DUONG, DIEU HIEN

ART UNIT

PAPER NUMBER

2821

MAIL DATE

DELIVERY MODE

02/18/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/565,928	Applicant(s) BOYLE, KEVIN R.	
	Examiner DIEU HIEN T. DUONG	Art Unit 2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-11,14 and 16-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-11,14 and 16-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 02/06/2009 has been entered. In virtue of this request, claims 5, 12-13 and 15 are canceled; claims 19-24 are newly added; thus, claims 1-4, 6-11, 14 and 16-24 are currently in the instant application.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3-4, 6, 8-10, 14, 16-17 and 19-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. (US 4,827,266), hereinafter "Sato" in view of Johnson (US 6,236,368 B1).

Regarding claims 1, 3, 9 and 17, Sato discloses, in Figure 7, a communications apparatus comprising a ground plane (2); a patch antenna (1) spaced from the ground plane (2), the patch antenna (1) not having any slot; a dielectric between the ground

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and the planar antenna; and a feed (4, 6, 11) for coupling the patch antenna (1), the feed comprising components (4, 6, 11) that are physically attached to a main surface of the patch antenna (1), the components (4, 6, 11) for reactively tuning the patch antenna by tuning a first frequency inductively and a second frequency capacitively, the first frequency being lower than the second frequency.

Sato does not disclose a housing; a printed circuit board (PCB) within the housing having rf circuitry disposed thereon.

Johnson discloses, in Figure 1, a housing; a printed circuit board (PCB) within the housing having rf circuitry disposed thereon.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the printed circuit board and the house of Johnson in the antenna assembly of Sato to achieve the claimed invention, doing so would provide a wireless communications device having an antenna of a small size and an excellent impedance characteristic (Sato, col. 1, lines 6-10).

Regarding claims 4, 8, 10, 14 and 16, Sato/Johnson disclose, (Sato, Figure 7), wherein the components are located adjacent the dielectric; wherein the components comprise a transmission line; wherein the dielectric is air.

Regarding claim 6, Sato/Johnson disclose every feature of claimed invention except for wherein the planar antenna is a planar inverted-L antenna (PILA). However such difference is not of patentable merits since it would have been an obvious matter of design choice to have the planar antenna being a planar inverted-L antenna and such

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modification would have involved a mere change in the type of a antenna. A change in type is generally recognized as being within the level of ordinary skill in the art.

Regarding claims 19-22, Sato/Johnson disclose, (Sato, Figure 7), wherein the components (4, 6, 11) are physically located between the patch antenna (1) and the ground plane (2).

Regarding claims 23-24, Sato/Johnson disclose, (Sato, Figure 7), wherein the components (4, 6, 11) are surrounded by the dielectric.

4. Claims 2, 7, 11 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. (US 4,827,266), hereinafter "Sato" in view of Johnson (US 6,236,368 B1) and further in view of Kushihi (US 2002/0044092 A1 of record).

Regarding claims 2, 7, 11 and 18, Sato/Johnson disclose every feature of claimed invention except for the components comprising a series connected, parallel L-C network.

Kushihi discloses, in Figure 1, the components comprising a series connected, parallel L-C network.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the connection of the components of Sato/Johnson with the connection of the components as taught by Kushihi in order to enhance the antenna sensitivity and reduce the cost of the antenna (see Kushihi, paragraph [0019]).

Inquiry

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DIEU HIEN T. DUONG whose telephone number is

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(571)272-8980. The examiner can normally be reached on Monday - Friday, from 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W. Owens can be reached on 571-272-1662. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

02/15/2009

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/Trinh Vo Dinh/

Primary Examiner, Art Unit 2821